(Quality of Life).

Ginsenoside Rb_1 can be expected to protect hepatic cells (hepatocytes) and renal cells in cases of acute and chronic hepatitis or nephritis. In addition, it may ameliorate prognosis of patients with hepatitis and nephritis by facilitating the regeneration and/or reconstruction of vascular networks once destroyed by hepatitis and nephritis. Further, ginsenoside Rb_1 exhibits effect and efficacy on healing of decubitus or wound through its cytoprotective action and vascular regeneration and reconstruction-promoting actions. In that case, ginsenoside Rb_1 can be used not only as an agent for intravenous administration but also as an agent for external use and local injection to lesion. Further, method for administration of ginsenoside Rb_1 can be selected among various routes of administration such as subcutaneous injection, intramuscular injection, eye drops, nasal application, inhalation, suppository, oral administration, sublingual administration, percutaneous administration, etc. In case of oral administration of ginsenoside Rb_1, sole administration of ginsenoside Rb_1 can not be expected to exhibit good effects, and thus it is necessary to make oral administration of ginsenoside Rb_1 by combining, encapsulating or binding with carriers which inhibit decomposition in the digestive tract or promote absorption in the digestive tract. If metabolites of ginsenoside Rb_1 showing equivalent or more effect or efficacy as compared with

ginsenoside Rb_1 are identified, such metabolites can be administered by the conventional methods to patients with the diseases described above, to which application of ginsenoside Rb_1 can be expected to be effective. After preparing dispersing agents with ginsenoside Rb_1 of the present invention and any polymer compounds, the mixture is spray dried to apply to patients via any routes of administration. Any routes of administration can be selected after coating ginsenoside Rb_1 with microgranules of polymer.

Ginsenoside Rb_1 is thought to be effective for protection and/or maintenance of cultured keratinocyte sheets for skin graft. Injuries of cells and destruction of vascular networks of organs for transplantation (liver, kidney, heart, spleen, lung, digestive tract, cornea, blood vessel, etc) can be inhibited by immersing or perfusing such organs with solutions containing low concentrations of ginsenoside Rb_1 before performing transplantation operation, and thereby results of transplantation can be improved (in JP98/365560 and PCT/JP99/02550: "Brain cell or nerve cell-protective agents comprising ginsenoside Rb_1"). Further, ginsenoside Rb_1 is thought to be effective for protection and/or maintenance of blood cell components and platelets and for protection and/or maintenance of frozen ovum or sperm.

Intravenous administration of ginsenoside Rb_1 of the present invention ameliorates significantly paraplegia of

animals with spinal cord injuries. It is well known that the nervous tissues are more vulnerable to trauma than the other peripheral tissues. The fact that the pharmaceutical composition comprising ginsenoside Rb_1 exhibits significant effects for therapy and treatment of spinal cord injuries suggests that ginsenoside Rb_1 may also be effective for treatment of traumatic injuries to the peripheral tissues as well as the central nervous tissues. As shown in example 4, rats with spinal cord injuries, to which compression is loaded on the lower thoracic cord, can stand up as a result of intravenous administration of ginsenoside Rb_1 after the injuries. The physiological saline (i.e. vehicle)-infused rats with spinal cord injuries can not stand up as well as exhibiting paraplegia of both hindlimbs. On the basis of these facts, the therapeutic effects of ginsenoside Rb_1 for spinal cord injuries are thought to be the most potent as far as we know. Consequently, it is expected that, in the future, ginsenoside Rb_1 or its metabolites will be used as a leading compound(s) in development of various remedies for spinal cord injuries and traumatic injuries to the nervous tissue. Further, as a result of identifying the target molecule(s) of ginsenoside Rb_1, novel compounds which can modify the functions of the target molecules, can be synthesized. As such, the present invention is essential for developing remedies for spinal cord injuries and neuronal traumatic injuries (neurotrauma) which have threatened humans in history.